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Suppliers' Information Note

For The Openreach Network

Protocol Implementation Conformance Statements (PICS) for ISDN 2e: Basic Access - Layer 2

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1. Introduction

This document states the capabilities and options of the DSS1 Layer 2 protocol for basic call control on the basic access interface which has been implemented in the ISDN 2e network.

The ETSI protocol specification used as a basis for this PICS proforma is ETS 300 402-2, edition November 1995.

The ETSI PICS proforma used as a basis for this PICS is ETS 300 402-4, edition November 1996.

Openreach will withdraw the ISDN2e Basic Access service by end of January 2027 in line with the closure of the BT UK PSTN.

2. References

1	ETS 300 (1995)	402-2	Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Data link layer; Part 2: General protocol specification; [Application of ITU-T Recommendation Q.921 (1993), modified]
2	ETS 300 (1996)	403-4	Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Data link layer; Part 4: Protocol Implementation Conformance Statement (PICS) proforma specification

For further information or copies of referenced sources, please see document sources at https://www.openreach.co.uk/orpg/home/helpandsupport/sins/sins.do

3. Protocol Implementation Conformance Statement (PICS)

Using the relevant standard (see ref. 2), the PICS is given below. The section and table numbering as used in the ETSI standard has been maintained. Only those parts of the standard relevant to the network implementation are given. For guidance on the abbreviations and meaning of the completed PICS tables, see SIN 369, Part A.

Unless stated otherwise, the standard referred to in the **reference** column is the ETS given in reference 1. For glossary of terms used, see the referenced standards [1, 2].

A.6 Roles

Table A.1: Roles

Item	Role	Conditions for status	Status	Reference	Support
R 1	not used				
R 2.1	the user role		O.1		[ ]Yes [√]No
R 2.2	the network role		O.1		[√]Yes [ ]No
	Type of implementation				
R 3	not used				
R 4	not used				
R 5	not used				
R 6.1	basic access		O.2		[√]Yes [ ]No
R 6.2	primary rate access		O.2		[ ]Yes [√]No
O.1	Support of one and only one of these options is required.				
O.2	Support of one and only one of these options is required.				
Comments:					

A.8 Network

The tables provided in this subclause need only to be completed for network implementations.

Prerequisite: R 2.2

A.8.1 Major capabilities

Each question in table A.12 refers to a major function of the protocol. Answering "Yes" to a particular question state that the implementation supports all the mandatory procedures for that function defined in the referenced clauses and subclauses of ETS 300 402-2 [1].

Answering "No" to a particular question state that the implementation does not support that function of the protocol. Table A.12: Major capabilities - network

Item	Major capability: does the IUT support...	Conditions for status	Status	Reference	Support
	General				
MCn 1.1	configurations using more than one Terminal Endpoint Identifier (TEI)?		O.8	Annex A	[√]Yes [ ]No
MCn 1.2	point-to-point configurations using only one TEI value?		O.8	Annex A	[√]Yes [ ]No
	Procedures for unacknowledged information transfer				
MCn 2.1	the unacknowledged information transfer service in the broadcast data link (using TEI value 127)?	MCn 3 NOT MCn 3	M O	5.2	[√]Yes [ ]No
MCn 2.2	the unacknowledged information transfer service in a point-to-point data link (using a TEI value other than 127)?		O	5.2, 5.2.1	[ ]Yes [√]No
	TEI management procedure				
MCn 3	TEI management procedures?	MCn 1.1 MCn 1.2	M O	5.3 Annex A	[√]Yes [ ]No
MCn 3.1.1	the automatic TEI assignment procedures?	MCn 3 NOT MCn 3	M N/A	5.3.2	[√]Yes [ ]No [ ]N/A
MCn 3.1.2	the non-automatic TEI assignment procedures?	MCn 3 NOT MCn 3	M N/A	5.3.2	[√]Yes [ ]No [ ]N/A
MCn 3.2	the TEI check procedures?	MCn 3 NOT MCn 3	M N/A	5.3.3	[√]Yes [ ]No [ ]N/A
MCn 3.3	the TEI removal procedures?	MCn 3 NOT MCn 3	M N/A	5.3.4	[√]Yes [ ]No [ ]N/A
MCn 3.4	the TEI identity verify procedures?	MCn 3 NOT MCn 3	O N/A	5.3.5	[√]Yes [ ]No [ ]N/A
	Initialization of data link layer parameters				
MCn 4	the procedures for initialization of the data link parameters to the default values?		M	5.4	[√]Yes [ ]No
	Multiple frame operations				
MCn 5	multiple frame operations?		M	5.5	[√]Yes [ ]No
MCn 5.1.1	the self initiated establishment of multiple frame operation?		O	5.5.1, 5.5.5, 5.5.6	[√]Yes [ ]No
MCn 5.1.2	the peer initiated establishment of multiple frame operation?		M	5.5.1, 5.5.5, 5.5.6	[√]Yes [ ]No
MCn 5.2.1	the self initiated termination of multiple frame operation?		O	5.5.3, 5.5.5, 5.5.6	[√]Yes [ ]No
MCn 5.2.2	the peer initiated termination of multiple frame operation?		M	5.5.3, 5.5.5, 5.5.6	[√]Yes [ ]No
MCn 5.3	information transfer in multiple frame operation?		M	5.6	[√]Yes [ ]No
MCn 5.4	the re-establishment of multiple frame operation?		M	5.7	[√]Yes [ ]No
MCn 5.5	the data link layer monitor function?		O	5.10	[√]Yes [ ]No
O.8	Support of one and only one of these options is required.				
Comments:					

A.8.2 Subsidiary capabilities

Indicating support for an item in table A.13 states that the implementation supports special cases or options within a major capability.

Table A.13: Subsidiary capabilities - network

Item	Subsidiary capability: does the IUT support...	Conditions for status	Status	Reference	Support
SCn 1	not used				
	Multiple frame operations				
SCn 2	the transmission of I frames in the own receiver busy condition?		O	5.6.1	[ ]Yes [√]No
Comments: SCn 2: Some, but not all, BT network implementations support this feature.					

A.8.3 Protocol data units

The tables in this subclause ask questions related to the support of PDUs in the network role.

A.8.3.1 Frames received by the network

Indicating support for an item in table A.14 states that the implementation has the ability to recognize the frame listed in that item. Support for the receipt of a particular type of PDU means support for recognizing and acting upon all valid instances of that PDU type, including all valid PDU parameters, to the extent required by ETS 300 402-2 [1].

Table A.14: Frames received - network

Item	Message: does the IUT support the receipt of a frame of type...	Conditions for status	Status	Reference	Support
	Information transfer (I) format				
FRn 1	I command?		M	3.6.2, 5.6	[√]Yes [ ]No
	Supervisory (S) format				
FRn 2	RR command?		M	3.6.6, 5.6, 5.10	[√]Yes [ ]No
FRn 3	RR response?		M	3.6.6, 5.6, 5.10	[√]Yes [ ]No
FRn 4	RNR command?		M	3.6.8, 5.6, 5.10	[√]Yes [ ]No
FRn 5	RNR response?		M	3.6.8, 5.6, 5.10	[√]Yes [ ]No
FRn 6	REJ command?		M	3.6.7, 5.6, 5.8.1	[√]Yes [ ]No
FRn 7	REJ response?		M	3.6.7, 5.6, 5.8.1	[√]Yes [ ]No
	Unnumbered (U) format				
FRn 8	SABME command?		M	3.6.3, 5.5.1, 5.7	[√]Yes [ ]No
FRn 9	DISC command?		M	3.6.4, 5.5.3	[√]Yes [ ]No
FRn 10	UA response?		M	3.6.9, 5.5	[√]Yes [ ]No
FRn 11	DM response?		M	3.6.10, 5.5	[√]Yes [ ]No
FRn 12	UI command?	MCn 2.1 OR MCn 2.2 NOT (MCn 2.1 OR MCn 2.2)	M N/A	3.6.5, 5.2.3, 5.3	[√]Yes [ ]No [ ]N/A
FRn 13	FRMR response?		M	3.6.11, 5.8.6	[√]Yes [ ]No
FRn 14	XID command?		M	3.6.12	[√]Yes [ ]No Note 1
FRn 15	XID response?		M	3.6.12	[√]Yes [ ]No Note 1
Comments: Note 1: Command understood by the protocol, but explicitly not acted upon.					

A.8.3.2 Frames transmitted by the network

Indicating support for an item in table A.15 states that the implementation has the ability to transmit the frame listed in that item.

Table A.15: Frames transmitted - network

Item	Message: does the IUT support the transmission of a frame of type...	Conditions for status	Status	Reference	Support
	Information transfer (I) format				
FTn 1	I command?		M	3.6.2, 5.6	[√]Yes [ ]No
	Supervisory (S) format				
FTn 2	RR command?		M	3.6.6, 5.6, 5.10	[√]Yes [ ]No
FTn 3	RR response?		M	3.6.6, 5.6, 5.10	[√]Yes [ ]No
FTn 4	RNR command?		M	3.6.8, 5.6, 5.10	[√]Yes [ ]No
FTn 5	RNR response?		M	3.6.8, 5.6, 5.10	[√]Yes [ ]No
FTn 6	REJ command?		M	3.6.7, 5.6, 5.8.1	[√]Yes [ ]No
FTn 7	REJ response?		M	3.6.7, 5.6, 5.8.1	[√]Yes [ ]No
	Unnumbered (U) format				
FTn 8	SABME command?		M	3.6.3, 5.5.1, 5.7	[√]Yes [ ]No
FTn 9	DISC command?	MCn 5.2.1 NOT MCn 5.2.1	M O	3.6.4, 5.5.3	[√]Yes [ ]No
FTn 10	UA response?		M	3.6.9, 5.5	[√]Yes [ ]No
FTn 11	DM response?		M	3.6.10, 5.5	[√]Yes [ ]No
FTn 12	UI command?	MCn 2.1 OR MCn 2.2 NOT (MCn 2.1 OR MCn 2.2)	M N/A	3.6.5, 5.2.2, 5.3	[√]Yes [ ]No [ ]N/A
FTn 13	FRMR response?		X	3.6.11, 5, 5.8.6	[ ]Yes [√]No
Comments:					

A.8.4 PDU parameters

A.8.4.1 Service data units

A.8.4.1.1 Service data units received by the network

The tables in this subclause ask questions related to the support of SDU parameters in UI frames received and transmitted by the IUT in the network role.

Table A.16: SDUs received in UI frames - network

Item	Does the IUT support in the UI frame information field the interpretation of ...	Conditions for status	Status	Reference	Support
PRn 1	Layer 3 messages?	FRn 12 NOT FRn 12	O N/A	5.2	[√]Yes [ ]No [ ]N/A
	Layer management messages				
PRn 2.1	Identity request?	MCn 3.1.1 NOT MCn 3.1.1	M N/A	5.3.2	[√]Yes [ ]No [ ]N/A
PRn 2.2	Identity check response?	MCn 3.2 NOT MCn 3.2	M N/A	5.3.3	[√]Yes [ ]No [ ]N/A
PRn 2.3	Identity verify?	MCn 3.4 NOT MCn 3.4	M N/A	5.3.5	[√]Yes [ ]No [ ]N/A
Comments:					

A.8.4.1.2 Service data units transmitted by the network

Table A.17: SDUs transmitted in UI frames - network

Item	Does the IUT support in the UI frame information field the inclusion of ...	Conditions for status	Status	Reference	Support
PTn 1	Layer 3 messages?	FTn 12 NOT FTn 12	O N/A	5.2	[√]Yes [ ]No [ ]N/A
	Layer management messages				
PTn 2.1	Identity assign?	MCn 3.1.1 NOT MCn 3.1.1	M N/A	5.3.2	[√]Yes [ ]No [ ]N/A
PTn 2.2	Identity denied?	MCn 3.1.1 NOT MCn 3.1.1	M N/A	5.3.2	[√]Yes [ ]No [ ]N/A
PTn 2.3	Identity check request?	MCn 3.2 NOT MCn 3.2	M N/A	5.3.3	[√]Yes [ ]No [ ]N/A
PTn 2.4	Identity remove?	MCn 3.3 NOT MCn 3.3	M N/A	5.3.4	[√]Yes [ ]No [ ]N/A
Comments:					

A.8.4.2 Address field variables

The tables in this subclause ask questions related to the support of the values of certain fields of the address field received and transmitted by the IUT in the network role.

Table A.18: SAPI values supported - network

Item	Does the IUT support the ...	Conditions for status	Status	Reference	Support
SAPn 1	SAPI value 0?		O.9	3.3.3	[√]Yes [ ]No
SAPn 2	SAPI value 12?		O.9	3.3.3	[ ]Yes [√]No
SAPn 3	SAPI value 16?		O.9	3.3.3	[√]Yes [ ]No
SAPn 4	SAPI value 63?	MCn 3 NOT MCn 3	M N/A	3.3.3, 5.3.1	[√]Yes [ ]No [ ]N/A
O.9	Support of at least one of these options is required.				
Comments:					

Table A.19: TEI values supported - network

Item	Does the IUT support the...	Conditions for status	Status	Reference	Support
TEIn 1	TEI value 0 exclusively?	MCn 1.2 NOT MCn 1.2	M N/A	3.3.4.2, Annex A	[√]Yes [ ]No [ ]N/A
TEIn 2	TEI values in the range from 0 to 63?	MCn 3.1.2 NOT MCn 3.1.2	M N/A	3.3.4.2	[√]Yes [ ]No [ ]N/A
TEIn 3	TEI values in the range from 64 to 126?	MCn 3.1.1 NOT MCn 3.1.1	M N/A	3.3.4.2	[√]Yes [ ]No [ ]N/A
TEIn 4	TEI value 127?	MCn 2.1 NOT MCn 2.1	M N/A	3.3.4.1	[√]Yes [ ]No [ ]N/A
Comments:					

A.8.5 Timers

Indicating support for an item in table A.20 states that the implementation has a timer that operates in accordance with the description in subclause 5.9 and the relevant behaviour in ETS 300 402-2 [1].

Table A.20: Timers - network

Item	Timer: does the IUT support...	Conditions for status	Status	Reference	Support	Supported value(s)
TMn 1	T200 (default value 1 s)?		M	5.9.1	[√]Yes [ ]No	1 s
TMn 2	T201 (default value 1 s)?	MCn 1.1 MCn 1.2	M N/A	5.9.6	[√]Yes [ ]No [ ]N/A	1 s
TMn 3	T203 (default value 10 s)?	MCn 5.5 NOT MCn 5.5	M N/A	5.9.8	[√]Yes [ ]No [ ]N/A	10 s
Comments:						

A.8.6 System parameters

Indicating support for an item in table A.21 states that the implementation has implemented the system parameter.

Table A.21: Parameters - network

Item	System parameter: does the IUT support...	Conditions for status	Status	Reference	Support	Supported value(s)
SPn 1	N200 (default value 3)?		M	5.9.2	[√]Yes [ ]No	3
SPn 2	N201 (default value 260)?		M	5.9.3	[√]Yes [ ]No	260
SPn 3	k (default values 1, 3, 7)?		M	5.9.5	[√]Yes [ ]No	1 Note 1
Comments: Note 1: Supported value = 3 for packet mode						

4. History

Issue 1	November 2000	First Issue
Issue 1.1	November 2006	Addition of note against SCn 2 in Table 13.
Issue 1.2	July 2014	Change SINet site references from http://www.sinet.bt.com to http://www.btplc.com/sinet/
Issue 1.3	October 2020	Changes to branding, from BT to Openreach including changes to reflect new Openreach SIN site and Openreach SIN email address
Issue 1.3	October 2021	Annual Review – no changes required – issue remains unchanged.
Issue 1.3	October 2022	Annual Review – branding and font changes only – issue remains unchanged.
Issue 1.3	October 2023	Annual Review – branding and font changes only – issue remains unchanged.
Issue 1.4	December 2025	Withdrawal notification added to the introduction section.

End